

1        This listing of claims will replace all prior versions, and listings, of claims  
2        in the application.

3

4        **Listing of Claims:**

5

6        Claim 1 (Previously presented): A client comprising:  
7              a processor;  
8              a memory;  
9              one or more output devices;  
10             a content player stored in the memory and executed on the processor to  
11             play content in the one or more output devices;

12             an operating system stored in the memory and executed on the processor,  
13             the operating system having processing tools for processing the content in support  
14             of the content player; and

15             a scrambling system to scramble the content before the content is processed  
16             by the processing tools of the operating system and to unscramble the content after  
17             the content is processed by the processing tools of the operating system,

18             wherein the processing tools modify the scrambled content.

19

20        Claim 2 (Previously presented): A client as recited in claim 1, wherein the  
21             processing tools comprise a filter graph with one or more filters that process the  
22             content.

1           Claim 3 (Original): A client as recited in claim 1, wherein the content  
2 player receives the content in an encrypted and compressed format, the content  
3 player decrypting and decompressing the content.

4

5           Claim 4 (Original): A client as recited in claim 1, wherein the scrambling  
6 system adds noise to the content.

7

8           Claim 5 (Original): A client as recited in claim 1, wherein the scrambling  
9 system XORs at least a subset of content with a random stream of bits.

10

11          Claim 6 (Original): A client as recited in claim 1, wherein the scrambling  
12 system transforms the content using one of time-domain or frequency-domain  
13 scrambling.

14

15          Claim 7 (Original): A client as recited in claim 1, wherein the operating  
16 system has at least one driver for the output devices and the scrambling system  
17 comprises:

18            a scrambler resident at the content player to scramble the content to  
19 produce scrambled content; and

20            a descrambler resident at the driver to unscramble the scrambled content to  
21 recover the content.

1           Claim 8 (Original): A client as recited in claim 1, wherein the scrambling  
2 system adds a random signal to the content to produce scrambled content and  
3 subtracts the random signal from the scrambled content to recover the content.

4

5           Claim 9 (Original): A client as recited in claim 1, wherein the scrambling  
6 system adds a periodic sync tone and a random signal to the content to produce  
7 scrambled content and subtracts the sync tone and the random signal from the  
8 scrambled content to recover the content.

9

10          Claim 10 (Original): A client as recited in claim 1, wherein the scrambling  
11 system utilizes at least one key to scramble the content.

12

13          Claim 11 (Original): A client as recited in claim 1, wherein the scrambling  
14 system comprises:

15            a tone generator to create periodic sets of tone patterns having varying  
16 amplitudes based on a first key;

17            a first random number generator to create a random signal based on the first  
18 key and a second key;

19            an adder to add the tone patterns and the random signal to the content to  
20 produce scrambled content;

21            a tone detector to detect the tone patterns in the scrambled content and  
22 recover the first key from the varying amplitudes of the tone patterns;

23            a second random number generator to create a random signal based on the  
24 recovered first key and the second key; and

1        a subtractor to subtract the tone patterns and the random signal from the  
2        scrambled content to restore the content.

3

4        Claim 12 (Original): A client as recited in claim 11, wherein the second  
5        key is passed via a channel separate from the scrambled content.

6

7        Claim 13 (Original): A client as recited in claim 11, wherein the second  
8        key is exchanged between the first and second random number generator over a  
9        secured path.

10

11      Claim 14 (Original): A client as recited in claim 1, wherein the scrambling  
12       system is implemented in software stored in the memory and executed on the  
13       processor.

14

15      Claim 15 (Previously presented): A content scrambler for scrambling  
16       content, comprising:

17        a tone generator and modulator to create periodic sets of tone patterns and  
18       to modulate amplitudes of the sets based on a first key;

19        a random number generator to create a random signal based on the first key  
20       and a second key, wherein the second key is provided on a separate channel from  
21       the first key; and

22        an adder to add the sets of tone patterns and the random signal to the  
23       content to produce scrambled content.

1           Claim 16 (Original): A content scrambler as recited in claim 15, wherein  
2 the tone generator and modulator modulates the amplitudes in a way that embeds  
3 the first key into the sets of tone patterns.

4

5           Claim 17 (Original): A content scrambler as recited in claim 15, wherein  
6 the tone generator and modulator produces the tone patterns with one of two  
7 amplitudes, wherein tone patterns with a first amplitude represent a first binary  
8 value and tone patterns with a second amplitude represent a second binary value,  
9 the first key being encoded into the sets of tone patterns as an aggregate of the first  
10 and second binary values.

11

12          Claim 18 (Original): A content scrambler as recited in claim 15, wherein  
13 the second key is encrypted for secure transportation to a descrambler.

14

15          Claim 19 (Previously presented): A media player for playing multimedia  
16 content, comprising a content scrambler comprising:

17           a tone generator and modulator to create periodic sets of tone patterns and  
18 to modulate amplitudes of the sets based on a first key;

19           a random number generator to create a random signal based on the first key  
20 and a second key, wherein the second key is provided on a separate channel from  
21 the first key; and

22           an adder to add the sets of tone patterns and the random signal to the  
23 content to produce scrambled content.

1       Claim 20 (Previously presented): An operating system comprising a  
2 content scrambler comprising:

3           a tone generator and modulator to create periodic sets of tone patterns and  
4 to modulate amplitudes of the sets based on a first key;

5           a random number generator to create a random signal based on the first key  
6 and a second key, wherein the second key is provided on a separate channel from  
7 the first key; and

8           an adder to add the sets of tone patterns and the random signal to the  
9 content to produce scrambled content.

10  
11       Claim 21 (Original): A content descrambler for unscrambling scrambled  
12 content, comprising:

13           a tone detector and demodulator to detect periodic sets of tone patterns in  
14 the scrambled content and to demodulate amplitudes of the sets to recover a first  
15 key;

16           a random number generator to create a random signal based on the  
17 recovered first key and a second key, wherein the second key is provided on a  
18 separate channel from the first key; and

19           a subtractor to subtract the tone patterns and the random signal from the  
20 scrambled content to recover content.

1           Claim 22 (Original): A content descrambler as recited in claim 21, wherein  
2 the tone patterns have one of two amplitudes so that tone patterns with a first  
3 amplitude represent a first binary value and tone patterns with a second amplitude  
4 represent a second binary value, the tone detector and demodulator using the first  
5 and second binary values from the varying amplitudes to recover the first key.

6

7           Claim 23 (Original): A content descrambler as recited in claim 21, wherein  
8 the second key is received separately from the scrambled content.

9

10          Claim 24 (Original): An operating system comprising the content  
11 scrambler of claim 21.

12

13          Claim 25 (Previously presented): A scrambling architecture for protecting  
14 content distributed by a content provider over a network to a client, comprising:

15            a content scrambler to scramble the content using first and second keys to  
16 produce scrambled content, the scrambler embedding the first key into the  
17 scrambled content and passing the second key on a separate channel from the  
18 scrambled content; and

19            a content descrambler to recover the first key from the scrambled content  
20 and to receive the second key, the descrambler unscrambling the scrambled  
21 content using the first and second keys to recover the content.

22

23

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25

1       Claim 26 (Original): A scrambling architecture as recited in claim 25,  
2 wherein the content scrambler and the content descrambler are implemented in  
3 software.

4

5       Claim 27 (Original): A scrambling architecture as recited in claim 25,  
6 wherein the content scrambler is implemented at the content provider, so that the  
7 content is scrambled prior to distribution over the network to the client.

8

9       Claim 28 (Original): A scrambling architecture as recited in claim 25,  
10 wherein the content scrambler is implemented at the client, so that the content is  
11 scrambled at the client after distribution over the network from the content  
12 provider.

13

14       Claim 29 (Original): A scrambling architecture as recited in claim 25,  
15 wherein the content descrambler is implemented within an operating system at the  
16 client.

17

18       Claim 30 (Original): A scrambling architecture as recited in claim 25,  
19 wherein the content descrambler is implemented within a driver at the client.

20

21       Claim 31 (Original): A scrambling architecture as recited in claim 25  
22 wherein the content scrambler passes the second key to the content descrambler  
23 over a cryptographically secured path.

1           Claim 32 (Original): A scrambling architecture as recited in claim 25,  
2 wherein the content scrambler comprises:

3           a tone generator and modulator to create periodic sets of tone patterns and  
4 to modulate amplitudes of the sets based on the first key;

5           a random number generator to create a random signal based on the first and  
6 second keys; and

7           an adder to add the sets of tone patterns and the random signal to the  
8 content to produce the scrambled content.

9

10          Claim 33 (Original): A scrambling architecture as recited in claim 32,  
11 wherein the tone generator and modulator modulates the amplitudes in a way that  
12 embeds the first key into the sets of tone patterns.

13

14          Claim 34 (Original): A scrambling architecture as recited in claim 32,  
15 wherein the tone generator and modulator produces the tone patterns with one of  
16 two amplitudes, wherein tone patterns with a first amplitude represent a first  
17 binary value and tone patterns with a second amplitude represent a second binary  
18 value, the first key being encoded into the sets of tone patterns as an aggregate of  
19 the first and second binary values.

20

21          Claim 35 (Original): A scrambling architecture as recited in claim 32,  
22 wherein the content descrambler comprises:

23           a tone detector and demodulator to detect the periodic sets of tone patterns  
24 in the scrambled content and to demodulate the amplitudes of the sets to recover  
25 the first key;

1        a random number generator to create a random signal based on the  
2 recovered first key and the second key; and

3        a subtractor to subtract the tone patterns and the random signal from the  
4 scrambled content to recover the content.

5  
6        Claim 36 (Previously presented): A client-server system for protecting  
7 content, comprising:

8            a client;

9            a server to serve content to the client, the server having an encoder to  
10 encrypt and compress the content to produce encoded content;

11          the client receiving the encoded content from the server and having a  
12 decoder to decrypt and decompress the encoded content to recover the content;

13          the client having a scrambler to scramble the content after decryption and  
14 decompression, the content remaining scrambled while processed by the client;

15 and

16          the client further having a descrambler to unscramble the content after  
17 processing for subsequent playing

18            wherein the processing modifies the scrambled content.

19  
20        Claim 37 (Original): A client-server system as recited in claim 36, wherein  
21 the client is equipped with a media player to play the content, processing tools to  
22 support the media player, and a driver; the scrambler being implemented as part of  
23 the media player and the descrambler being implemented as part of the driver.

1           Claim 38 (Original): A client-server system as recited in claim 36, wherein  
2 the client runs an operating system, and the content is scrambled while being  
3 handled by the operating system.

4

5           Claim 39 (Previously presented): A method for protecting content within a  
6 computer device, comprising:

7           receiving encoded content;  
8           decoding the encoded content to recover the content;  
9           scrambling the content after the decoding;  
10          processing the content while scrambled;  
11          descrambling the content after the processing; and  
12          playing the content,  
13          wherein the processing modifies the scrambled content.

14

15          Claim 40 (Original): A method as recited in claim 39, wherein the  
16 scrambling comprises adding noise to the content.

17

18          Claim 41 (Original): A method as recited in claim 39, wherein the  
19 scrambling comprises XORing at least a subset of the content with a random  
20 stream of bits.

21

22          Claim 42 (Original): A method as recited in claim 39, wherein the  
23 scrambling comprises transforming the content using one of time-domain or  
24 frequency-domain transforms.

1       Claim 43 (Original): A method as recited in claim 39, wherein the  
2 scrambling comprises:

3             adding sets of sync tones periodically to the content; and

4             adding a random signal to the content.

5

6       Claim 44 (Original): A method as recited in claim 43, wherein the  
7 descrambling comprises:

8             detecting the sets of sync tones in the content;

9             subtracting the sync tones from the content; and

10            subtracting the random signal from the content.

11

12       Claim 45 (Original): A method as recited in claim 39, wherein the  
13 scrambling comprises:

14             producing periodic sets of tone patterns having varying amplitudes based  
15 on a first key;

16             generating a random signal based on the first key and a second key; and

17             adding the tone patterns and the random signal to the content.

18

19       Claim 46 (Original): A method as recited in claim 45, wherein the  
20 descrambling comprises:

21             detecting the tone patterns in the content;

22             recovering the first key from the varying amplitudes of the tone patterns;

23             generating a random signal based on the recovered first key and the second  
24 key; and

1        subtracting the tone patterns and the random signal from the scrambled  
2 content to restore the content.

3  
4        Claim 47 (Original): A method as recited in claim 39, wherein the  
5 processing comprises passing the content through a filter graph.

6  
7        Claim 48 (Previously presented): A computer-readable medium having  
8 computer-executable instructions for performing a method comprising:

9            receiving encoded content;  
10          decoding the encoded content to recover the content;  
11          scrambling the content after the decoding;  
12          processing the content while scrambled;  
13          descrambling the content after the processing; and  
14          playing the content,  
15          wherein the processing modifies the scrambled content.

16  
17        Claim 49 (Previously presented): A method for delivering content from a  
18 server to a client over a network, comprising:

19            encoding the content at the server;  
20          serving the content from the server to the client;  
21          decoding the content at the client;  
22          scrambling the content after the decoding;  
23          processing the content while scrambled;  
24          descrambling the content after the processing; and  
25          playing the content,

1           wherein the processing modifies the scrambled content.

2

3       Claim 50 (Original): A method as recited in claim 49, wherein the  
4       scrambling comprises:

5           adding sets of sync tones periodically to the content; and

6           adding a random signal to the content.

7

8       Claim 51 (Original): A method as recited in claim 50, wherein the  
9       descrambling comprises:

10          detecting the sets of sync tones in the content;

11          subtracting the sync tones from the content; and

12          subtracting the random signal from the content.

13

14       Claim 52 (Canceled)

15

16       Claim 53 (Currently amended): A method for delivering content from a  
17       server to a client over a network, comprising:

18           scrambling the content at the server to produce scrambled content;

19           compressing the scrambled content at the server;

20           serving the compressed, scrambled content from the server to the client;

21           decompressing the compressed, scrambled content at the client to recover  
22       the scrambled content;

23           processing the scrambled content to modify the scrambled content;

24           descrambling the scrambled content after the processing to recover the  
25       content; and

1           playing the content

2        ~~A method as recited in claim 52, wherein the scrambling comprises:~~

3           producing periodic sets of tone patterns having varying amplitudes based  
4 on a first key;

5           generating a random signal based on the first key and a second key; and

6           adding the tone patterns and the random signal to the content.

7

8        Claim 54 (Original): A method as recited in claim 53, wherein the  
9 descrambling comprises:

10          detecting the tone patterns in the content;

11          recovering the first key from the varying amplitudes of the tone patterns;

12          generating a random signal based on the recovered first key and the second  
13 key; and

14          subtracting the tone patterns and the random signal from the scrambled  
15 content to restore the content.

16

17        Claim 55 (Previously presented): A computer-readable medium having  
18 computer-executable instructions for:

19          producing periodic sets of tone patterns having varying amplitudes based  
20 on a first key;

21          generating a random signal based on the first key and a second key,  
22 wherein the second key is provided on a separate channel from the first key; and

23          adding the tone patterns and the random signal to the content to scramble  
24 the content.

1           Claim 56 (Original): A computer-readable medium as recited in claim 55  
2 further having computer-executable instructions for:

3           detecting the tone patterns in the content;

4           recovering the first key from the varying amplitudes of the tone patterns;

5           generating a random signal based on the recovered first key and the second  
6 key; and

7           subtracting the tone patterns and the random signal from the scrambled  
8 content to restore the content.

9  
10          Claim 57 (Previously presented): A computer-readable medium having  
11 computer-executable instructions for:

12          detecting periodic sets of tone patterns within scrambled content, the tone  
13 patterns having varying amplitudes that were modulated based on a first key;

14          recovering the first key from the varying amplitudes of the tone patterns;

15          generating a random signal based on the recovered first key and the second  
16 key, wherein the second key is provided on a separate channel from the first key;  
17 and

18          subtracting the tone patterns and the random signal from the scrambled  
19 content to produce unscrambled content.

20  
21          Claim 58 (Previously presented): A client as recited in claim 1, wherein the  
22 processing tools modify the scrambled content, and performs one or more of the  
23 following: apply controls, adjust controls, mix with other sources, or impose a  
24 delay.

1           Claim 59 (Previously presented): A client-server system as recited in claim  
2 36, wherein the processing modifies the scrambled content, and  
3 performs one or more of the following: apply controls, adjust controls, mix with  
4 other sources, or impose a delay.

5  
6           Claim 60 (Previously presented): A method as recited in claim 52, wherein  
7 the processing performs one or more of the following: adjusting controls, mixing  
8 with other sources, or imposing a delay.

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